

**Amendments to the Claims:**

This listing of claims will replace all prior versions, and listings, of claims in the application:

**Listing of Claims:**

1                   1.       (Currently amended): A computer-implemented method for generating a  
2   portal page configured to display portlets, each portlet being generic to a plurality of data source  
3   types and individually configurable to display data obtained from at least one of the plurality of  
4   data source types, the method comprising:  
5                   forwarding information, from a first computer system to a second computer  
6   system, that configures the second computer system to display ~~one or more graphical user~~  
7   ~~interfaces that enables a web-based wizard that guides~~ users of the second computer system  
8   through a series of steps to interactively construct ~~software code representing the portal page~~  
9   ~~with the portlets configured to generate information displays when included on the portal page;~~  
10                  receiving, at the first computer system, a data source type selected by a user of the  
11   second computer system via the web-based wizard from a plurality of data source types  
12   presented by the web-based wizard that are supported by a portlet that is generic to the plurality  
13   of data source types and configurable to display data obtained from at least one of the plurality of  
14   data source types;  
15                  receiving, at the first computer system, access information provided by the user of  
16   the second computer system via the web-based wizard identifying a data source for the portlet of  
17   the data source type selected by the user via the web-based wizard;  
18                  receiving, at the first computer system, layout information provided by the user of  
19   the second computer system via the web-based interface for data obtained from the data source,  
20   the layout information including at least a layout style selected by the user of the second  
21   computer system via the web-based wizard from a plurality of layout styles presented by the  
22   web-based wizard that are supported by the portlet;

forwarding information, from the first computer system to the second computer system, that configures the second computer system to display a first user interface in the one or more graphical user interfaces based on selections by the users of the second computer system of data types for data sources associated with portlets being designed by the users, the first user interface configured to receive access information declaratively specified by the users of the second computer system during interactive sessions with the one or more graphical user interfaces of the data sources associated with the portlet being designed by the users;

forwarding information, from the first computer system to the second computer system, that configures the second computer system to display a second user interface in the one or more graphical user interfaces, the second user interface configured to receive layout information declaratively specified by the users of the second computer system during the interactive sessions with the one or more graphical user interfaces, the layout information indicative of at least one layout style from one or more layout styles presented by the second user interface for data from the data sources associated with the portlets being designed by the users;

determining, with a computer system, a data source specification using a computer system for the portlet based on the selected data source type and the access information associated with a first the data source of a first data type selected by a first user of the second computer system, the access information received via the first user interface from the first user of the second computer system during a first interactive session with the one or more graphical user interfaces;

determining, with the computer system, a layout specification using the computer system for the portlet based on a first layout style in the layout information received via the second user interface from the first user of the second computer system during the first interactive session the one or more graphical user interfaces;

generating, with the computer system, an instance of the software coding using the computer system that represents a portlet being designed by the first user of the second computer system during the first interactive session with the one or more graphical user interfaces based on the data source specification and the layout specification, the portlet configured by the software coding to obtain data from the first data source and to create at least

one visual representation according to the first layout style within the portal when included on the portal page of the data obtained from the first data source;  
retrieving data for the first from the data source based on the instance of software coding that represents the portlet;  
determining, with the computer system, a layout within the portlet for the data retrieved for the first from the data source based on the instance of software coding that represents the portlet; and  
generating, with the computer system, the portal page using the instance of the portlet.

2. (Canceled).

3. (Currently amended): The method of claim [[2]] 1, wherein the plurality of data source types include determining the data type of the first data source comprises determining at least [[one]] two of a spreadsheet data source type, XML data source type, SQL data source type, web service data source type, and a web page data source type.

4. (Currently amended): The method of claim 1, wherein determining the data source specification for the portlet based on the selected data source type and the access information associated with the first data source of the first data type selected by the first user of the second computer system comprises determining a path to the first data source.

5. (Previously presented): The method of claim 4, wherein determining the path comprises determining a URL.

6. (Currently amended): The method of claim 1, wherein determining the data source specification for the portlet based on the selected data source type and the access information associated with the first data source of the first data type selected by the first user of the second computer system comprises determining a filtering specification for the portlet based on filter information received from the first user via the web-based wizard during the first interactive session via a third graphical user interface in the one or more graphical user

7 interfaces, the third graphical user interface configured to receive data filters specified by the  
8 users of the second computer system that filter data retrieved from the data sources for the  
9 portlets being designed by the users.

1                   7.       (Currently amended): The method of claim 1, wherein the plurality of  
2 layout styles presented by the web-based wizard include determining the layout specification  
3 based on the first layout style in the layout information comprises determining the first layout  
4 style as at least one of a tabular layout, chart layout, news layout, form layout, and bullet layout  
5 s.

1                   8.       (Currently amended): The method of claim 1, wherein determining the  
2 layout within the portlet for the data retrieved ~~for the first from the~~ data source comprises  
3 formatting the data retrieved ~~for the first from the~~ data source into the first according to the  
4 selected layout style.

1                   9.       (Original): The method of claim 1, wherein the portal page comprises a  
2 web-based page.

1                   10.      (Previously presented): The method of claim 1, wherein the portal page  
2 comprises a non web-based page.

1                   11.      (Currently amended): A computer-implemented method for generating a  
2 user-customizable graphical user interface (GUI), the method comprising:  
3 forwarding information, from a first computer system to a second computer  
4 system, that configures the second computer system to display one or more graphical user  
5 interfaces (GUIs) that enable guide users of the second computer system to interactively  
6 construct ~~software code representing~~ the user-customizable GUI with objects, each object being  
7 generic to a plurality of data source types and individually configurable to display data obtained  
8 from at least one of the plurality of data source types configured to generate information displays  
9 within the user-customizable GUI;

forwarding information, from the first computer system to the second computer system, that enables the display of a data source interface in the one or more graphical user interfaces based on selections by the users of the second computer system of data types for data sources associated with objects being designed by the users, the data source interface configured to receive access information declaratively specified by the users of the second computer system during one or more interactive sessions with the data source interface of the data source associated with the object being designed by the users;

receiving, at the first computer system, a data source type selected by a user of the second computer system via the one or more GUIs from a plurality of data source types presented by the one or more GUIs that are supported by an object to be included on the user-customizable GUI;

receiving, at the first computer system, access information provided by the user of the second computer system via the one or more GUIs identifying a data source for the object of the data source type selected by the user via the one or more GUIs;

determining a declarative specification for the object using a computer system based on the selected data source type and the access information associated with a first the data source of a first data type provided by a first user of the second computer system during an interactive session with the data source interface;

retrieving, using the computer system, data for the first data source using the access information in the declarative specification for the object;

forwarding information, from the first computer system to the second computer system, that enables the display of a layout interface in the one or more graphical user interfaces; the layout interface configured to receive layout information declaratively specified by the users of the second computer system during the one or more interactive sessions with the one or more graphical user interfaces; the layout information indicative of at least one layout options from one or more layout options presented by the layout interface for data from the data sources associated with the objects being designed by the users;

receiving, at the first computer system, layout information provided by the user of the second computer system via the one or more GUIs for the data obtained from the data source,

39 the layout information including at least a layout style selected by the user of the second  
40 computer system via the one or more GUIs from a plurality of layout styles presented by the one  
41 or more GUIs that are supported by the object;

42 determining a layout specification for the object using the computer system based  
43 on the layout information a first layout option provided by the first user of the second computer  
44 system during an interactive session with the layout interface, the layout specification indicative  
45 of one or more visualizations within the object being designed by the first user of the data  
46 retrieved from the first data source when included on the user-customizable GUI; and

47 generating, using the computer system, software coding that represents the object  
48 being designed by the first user based on the declarative specification, [[for]] the data obtained  
49 from the data source, and the layout specification, the generated object being first code to be  
50 included on the user-customizable GUI and configured to create a graphical user interface  
51 generate second code creating a graphical display when included on the user-customizable GUI;  
52 the graphical user interface of the object displaying the retrieved data from the first data source  
53 according to the first layout option provided by the user.

1 12. (Canceled).

1 13. (Currently amended): The method of claim 12, wherein the ~~one or more~~  
2 plurality of data source types comprise at least [[one]] two of a spreadsheet data source type,  
3 XML data source type, SQL data source type, web service data source type, and a web page data  
4 source type.

1 14. (Canceled).

1 15. (Original): The method of claim 11, wherein the access information  
2 comprises a URL.

1 16. (Currently amended): The method of claim 11, further comprising  
2 forwarding information, from the first computer system to the second computer system, that  
3 enables the display of a filtering interface in the one or more graphical user interfaces, the

4 filtering interface including receiving filtering options provided by the user of the second  
5 computer system via the one or more GUIs for the retrieved data that enables the users of the  
6 second computer system to declaratively specify which data to use in the user-customizable GUI;  
7 and  
8 wherein generating, using the computer system, the object based on the  
9 declarative specification, the data obtained from the data source, and the layout specification  
10 further includes generated the object based on the filtering options.

1 17. (Canceled).

1 18. (Currently amended): The method of claim [[17]] 11, wherein the selected  
2 layout type comprises at least one of a tabular layout, chart layout, news layout, form layout, and  
3 bullet layout.

1 19. (Currently amended): The method of claim [[17]] 11, further comprising  
2 forwarding information, from the first computer system to the second computer system, that  
3 enables the display of a layout type interface that enables the user to further specify receiving  
4 information specifying how the data from the data source[[s]] associated with the objects being  
5 designed by the users should be laid out in the user-customizable GUI using the layout type.

1 20. (Canceled).

1 21. (Previously presented): The method of claim 11, wherein the user-  
2 customizable GUI comprises a web-based page.

1 22. (Previously presented): The method of claim 11, wherein the object of the  
2 user-customizable GUI comprises a portlet.

1 23. (Currently amended): A computer-implemented method for declaratively  
2 generating a page with objects that generate display code for data when associated with the page  
3 using an interface configure to enable a user to create objects that generate one or more visual  
4 representation of data when associated with the page, the method comprising:

5 forwarding information, from a first computer system to a second computer  
6 system, that configures the second computer system to display the interface to [[the]] a user of  
7 the second computer system to enable the user to construct software code representing the  
8 objects that generate the display code when associated with the page one or more visual  
9 representations of data on the page;

10 forwarding information, from the first computer system to the second computer  
11 system, that enables the user to select during an interactive session with the interface one or more  
12 data types presented by the interface for data sources associated with the objects being designed  
13 by the user, the interface configured based on the information to receive access information  
14 declaratively specified by the user during the interactive session with the interface of the data  
15 sources associated with the objects being designed by the user;

16 receiving, at a computer system, first input from the user during one or more  
17 interactive sessions between the user and the interface, the first input indicative of a data source  
18 type selected by the user of the second computer system via the interface from a plurality of data  
19 source types presented by the interface that are supported by an object that is generic to the  
20 plurality of data source types and configurable to generate display code for data obtained from at  
21 least one of the plurality of data source types;

22 receiving, at a computer system, second input from the user during one or more  
23 interactive sessions between the user and the interface, the second input indicative of access  
24 information associated with identifying a first data source of an for the object of the data source  
25 type selected by the user that generates one or more visual representation of data when  
26 associated with the page;

27 retrieving, using a computer system, data from the first data source using the  
28 access information;

29 forwarding information, from the first computer system to the second computer  
30 system, that enables the user of the second computer system to select during an interactive  
31 session with the interface one or more layout types presented by the interface for data obtained  
32 from the data sources associated with the objects being designed by the user, the interface  
33 configured based on the information to receive a selection by the user during the interactive



session with the interface of at least one layout style from one or more layout styles presented by the interface for the data from the data sources associated with the objects being designed by the user;

determining, using a computer system, layout information for the data retrieved from the first data source from second input from the user during the one or more interactive sessions between the user and the interface, the layout information indicative of one or more visualizations in a first layout style selected by the first user of the data retrieved from the first data source for the object when included on the page;

receiving, at a first computer system, third input from the user during one or more interactive sessions between the user and the interface, the third input indicative of layout information provided by the user for the data obtained from the data source, the layout information including at least a layout style selected by the user of the second computer system via the interface from a plurality of layout styles presented by the interface that are supported by the object;

generating software coding representing [[for]] the object using a computer system based on the selected data source type, the access information, and the layout information that displays the one or more visualizations of the data retrieved from the first data source according to the layout information in response to the one or more interactive sessions between the user and the interface; and

generating the page using a computer system using with the object, the object creating display code for the retrieved data when included on the generated page.

24. (Currently amended): The method of claim 23, wherein receiving the first input comprises receiving a declarative specification of [[a]] the data source type for the data source.

25. (Original) The method of claim 23, wherein the access information comprises a path to the data source.

26. (Original): The method of claim 25, wherein the path comprises a URL.

1                   27.     (Currently amended): The method of claim 23, wherein receiving the first  
2     input or the second input further comprises receiving a filtering specification that filters the data  
3     retrieved from the data source.

1                   28.     (Original): The method of claim 23, wherein the page comprises a web-  
2     based page.

1                   29.     (Previously presented): The method of claim 23, wherein the object on  
2     the page comprises a portlet.